INCH-POUND
MIL-C-25/6D
12 January 2004
SUPERSEDING
MIL-C-25/6C
21 June 1968

MILITARY SPECIFICATION SHEET

* CAPACITORS, FIXED, PAPER OR PLASTIC DIELECTRIC,
DIRECT CURRENT
(HERMETICALLY SEALED IN METAL CASES),
STYLES CP67 AND CP69

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-C-25.

INACTIVE FOR NEW DESIGN
after 21 June 1968

REQUIREMENTS:

Dimensions: See figure 1, table I, and table II.

Case: Magnetic or nonmagnetic material, uninsulated.

Design and construction: Capacitors shall be of the design, construction and physical dimensions as specified in figure 1, table I, and table II.

Capacitance value: See table I.

Capacitance tolerance: See table I.

DC voltage rating: See table I.

Operating temperature range: -55°C to +85°C.

Terminal: Symbol B, solder lug (nonremovable).

Voltage derating with temperature: See figure 2.

* Dielectric withstanding voltage: As specified in MIL-C-25.

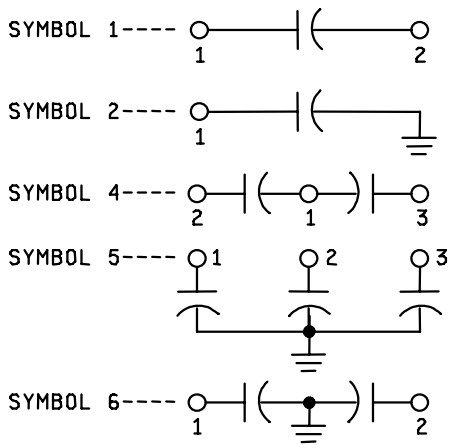
* Insulation resistance: As specified in MIL-C-25.

* Capacitance: When measured as specified in MIL-C-25, shall be within the tolerance specified in table I.

* Dissipation factor: When measured as specified in MIL-C-25, shall not exceed 1 percent.

* Barometric pressure (qualification only): As specified in MIL-C-25.

Circuit diagram:



Vibration (grade 1, 10 to 55 Hz): As specified in MIL-C-25.

* Salt atmosphere (corrosion): As specified in MIL-C-25.

* Thermal shock: As specified in MIL-C-25, except that the test temperature of step 3 shall be 85°C.

* Immersion: As specified in MIL-C-25.

* Terminal strength: As specified in MIL-C-25.

* Moisture resistance: As specified in MIL-C-25.

* Seal: As specified in MIL-C-25.

* Low temperature and capacitance change with temperature: As specified in MIL-C-25.

* Life: As specified in MIL-C-25.

* Qualification inspection: Qualification inspection is not required. A manufacturer that is currently listed on the QPL for at least one other MIL-C-25 style may supply the CP67 and CP69 parts by performing the group A testing. A manufacturer that is not qualified to any MIL-C-25 styles may produce these parts by performing the group A and group C testing on the product before delivery.

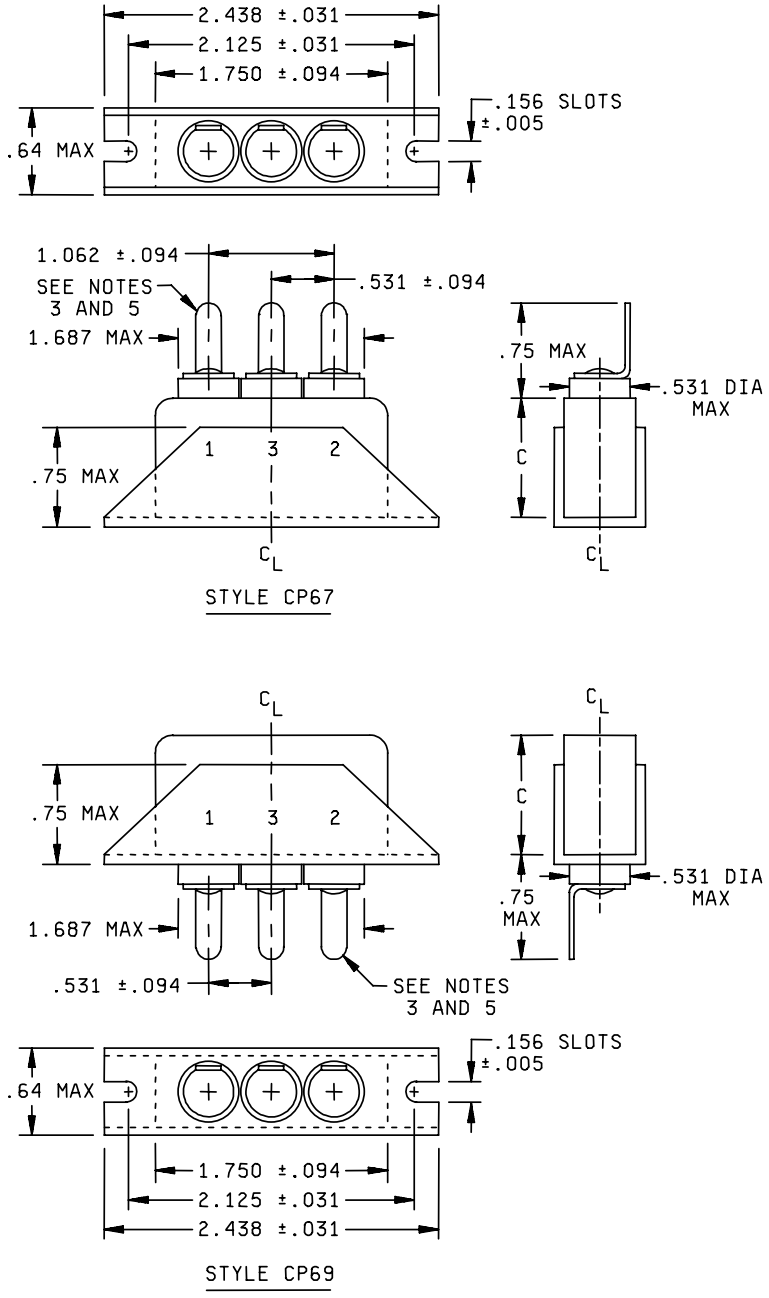


FIGURE 1. Styles CP67 and CP69 capacitors.

TABLE I. Styles CP67 and CP69 characteristics and dimensions.

Type designation 1/	DC voltage rating (see fig. 2) (volts)	Capacitance (µF)	Capacitance tolerance 2/	Characteristics	Vibration grade	Case size	
						Characteristic E	Characteristic F
CP6-B-EF503K1	600	0.05	K	E	1	B1	
CP6-B-EF104K1	600	0.1	K	E	1	B1	
CP6-B-EF254K1	600	0.25	K	E	1	B2	
CP6-B-EF504K1	600	0.5	K	E	1	B3	
CP6-B--F105K1	600	1	K	E, F	1	B5	B4
CP6-B-EG103K1	1,000	0.01	K	E	1	B1	
CP6-B-EG203K1	1,000	0.02	K	E	1	B1	
CP6-B-EG503K1	1,000	0.05	K	E	1	B1	
CP6-B--G104K1	1,000	0.1	K	E, F	1	B2	B1
CP6-B-EG254K1	1,000	0.25	K	E	1	B3	
CP6-B- -G504K1	1,000	0.5	K	E, F	1	B5	B4
CP6-B-EF503V1	600	0.05-0.05 3/	V	E	1	B1	
CP6-B-EF104V1	600	0.1 -0.1	V	E	1	B2	
CP6-B-EF254V1	600	0.25-0.25	V	E	1	B3	
CP6-B--F504K1	600	0.5 -0.5	V	E, F	1	B5	B4
CP6-B-EG103V1	1,000	0.01-0.01	V	E	1	B1	
CP6-B-EG203V1	1,000	0.02-0.02	V	E	1	B1	
CP6-B--G503V1	1,000	0.05-0.05	V	E, F	1	B2	B1
CP6-B--G104V1	1,000	0.1 -0.1	V	E, F	1	B3	B2
CP6-B--G254V1	1,000	0.25-0.25	V	E, F	1	B5	B4
CP6-B5-F503V1	600	0.05-0.05-0.05	V	E, F	1	B2	B1
CP6-B5EFP04V1	600	0.1-0.1-0.1	V	E	1	B2	
CP6-B5-F254V1	600	0.25-0.25-0.25	V	E, F	1	B5	B4
CP6-B5EG103V1	1,000	0.01-0.01-0.01	V	E	1	B1	
CP6-B5EG203V1	1,000	0.02-0.02-0.02	V	E	1	B1	
CP6-B5EG503V1	1,000	0.05-0.05-0.05	V	E	1	B2	
CP6-B5EG104V1	1,000	0.1 -0.1 -0.1	V	E	1	B4	

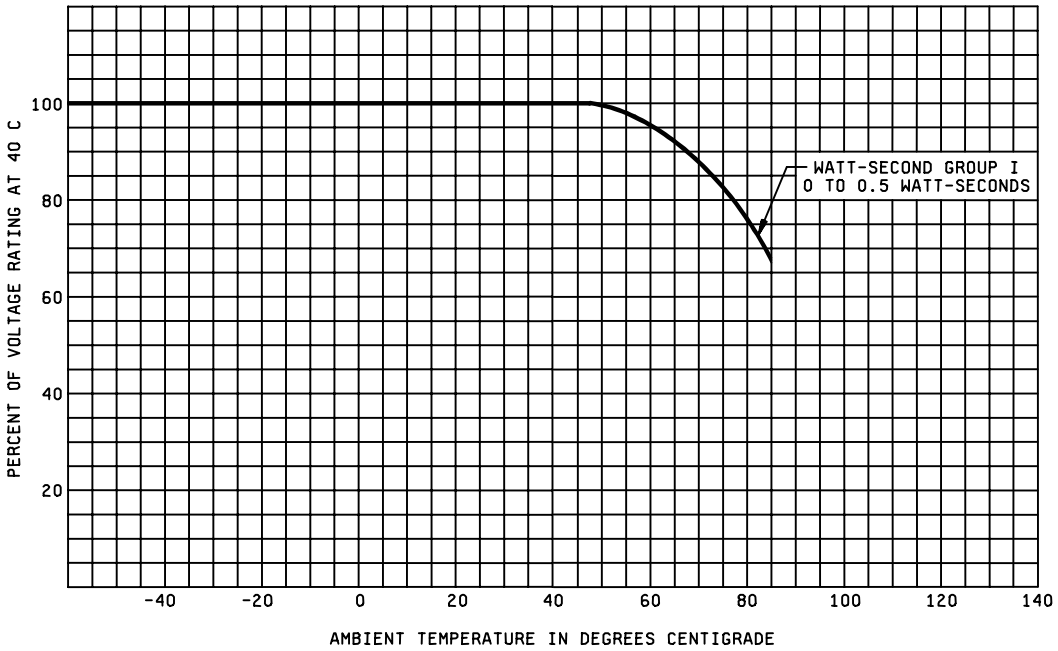
1/ Complete type designation shall include additional symbols to complete style designation, indicate circuit (where applicable) and characteristics (where applicable).
2/ Capacitance tolerance in percent: K, ±10; V, +20, -10.
3/ For multiple-unit capacitors, the watt-second rating is the sum of the watt-second ratings of the component sections.

TABLE II. Case dimensions.

Case size	Dimensions C ±.062
B1	1.062
B2	1.500
B3	2.000
B4	2.500
B5	2.750

TABLE III. Millimeter equivalent of decimal inches.

Inches	mm	Inches	mm	Inches	mm
.005	.13	.640	16.26	1.750	44.45
.031	.79	.750	19.05	2.000	50.80
.094	2.39	1.062	26.99	2.125	53.98
.156	3.96	1.500	38.10	2.438	61.93
.531	13.49	1.687	42.85	2.750	69.85



NOTE: Permissible operating voltages, while based on incomplete data are the capacitor suppliers' best estimate to provide a life expectancy of 8,800 hours of continuous operation at higher ambient temperatures. Longer life can be expected by operation at voltages lower than indicated on the curve: For example, a life expectancy of 44,000 hours may be obtained by operation at 70 percent of the voltage determined by use of this curve. Also, a life longer than 8,800 hours may be expected at the voltage determined by use of this curve if the high ambient temperature prevails for only a portion of the whole operating time.

FIGURE 2. Voltage derating for ambient temperature (characteristics E and F).

Changes from previous issue: The margins of this specification are marked with asterisks to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:
Army - CR
Navy - EC
Air Force - 11
* DLA - CC

Preparing activity:
DLA - CC

(Project 5910-2238-02)

Review activities:
Army - AR, MI
Navy - AS, OS
Air Force - 19, 99

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